UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,462	01/28/2004	Masahiko Nagai	JP920020225US1	3166

56687 7590 09/20/2010
Driggs, Hogg, Daugherty & Del Zoppo Co., L.P.A.
38500 CHARDON ROAD
DEPT. LEN
WILLOUGHBY HILLS, OH 44094

EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
09/20/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocommunications@driggslaw.com
carole@driggslaw.com
alicia@driggslaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/766,462	NAGAI, MASAHIKO	
	Examiner	**Art Unit**	
	GRANT D. SITTA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 June 2010_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 January 0200_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bilotti et al (6,622,012) hereinafter, Bilotti, in view of Cawthorne et al (5,633,626) hereinafter, Cawthorne further in view of Alderman et al (5,872,646) hereinafter, Alderman.

4. In regards to claim 1,Bilotti discloses the limitations of apparatus comprising:

first and second members movable one relative to the other (fig. 1 (12, 14 and 16));

an element mounted in one of said members which initiates an action in the apparatus (fig. 1 (18));

a detector mounted in the other of said members which responds to the proximity of and detects an intensity of interaction with said element (fig. 1 (20)); and

a processor (fig. 1 (22))

determine a detection state of the detector as true or false (col. 2, lines 16-67).

Bilotti differs from the claimed invention in that Bilotti does not disclose an inhibitor mounted in one of said members and which selectively inhibits the intensity of interaction between said element and said detector to prevent said detector from responding to the proximity of the element

a processor configured to determine a detection state of the detector and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on an output of the detector and the determined detection state of the detector.

However, Cawthorne teaches an inhibitor (fig. 30a, 30b, and 30c) mounted in one of a members (fig. 3 (12)) and which selectively inhibits the intensity of interaction between said element and said detector (fig. 3 (16c)) to prevent said detector from responding to the proximity of the element (col. 5, lines 50-64) "The embodiment of FIG. 3 uses flux cancellation and diversion as in the other embodiments. However, coils 30a, 30b and 30c are preferably larger magnetic coils wound on respective permeable cores 30a, 30b and 30c. These cores couple lines of flux to the reed switches 16a, 16b,

and 16c, in the (open) secure state wherein the door is closed. The door switch operation will not be affected. When coils 30a, 30b and 30c are energized as a group or individually, the respective circuit or circuits associated with these coils will be tested by virtue of the reduction of the magnetic lines of flux induced into the switch unit 10. This occurs because the self-test coils 30a, 30b and 30c are wired so as to induce opposing lines of flux into the respective permeable cores 30a, 30b and 30c, thereby canceling and deflecting lines of flux generated by the permanent magnets 22a, 22b and 22c. This has the effect of stimulating the sensing and alarm unit (not shown) in the same manner as opening the door."

a processor (col. 1, lines 40 and col. 2, lines 1-6 centrally located control system) configured to determine a detection state of the detector and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element (col. 5, lines 37-67) based on an output of the detector and the determined detection state of the detector (col. 5, lines 60-67).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the apparatus of Bilotti to include the use of an inhibitor as taught by Cawthorne in order to improve a testing and evaluation circuit which allows a test of a proximity switch and to monitor moveable members (col.2, lines 20-65).

Bilotti and Cawthorne fail to teach <u>turns on a noise flag if the intensity equals or exceeds a predetermined intensity value, and turns off the noise flag if the intensity is below the predetermined intensity value</u>

<u>determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is cancelled by a driving signal which changes the intensity of interaction to match the driving signal; and</u>

<u>determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal.</u>

However, Alderman teaches

a processor configured to (fig. 3 (30) microprocessor):

determine a detection state of the detector as true or false (col. 5, lines1-4 “[e]ach individual pulse is either received or not received and, based on that result, the presence or absence of an object is determined”) and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on the output of the detector and the determined detection state of the detector “In a typical application of a photodetector, a preselected number of light pulses must be properly received in sequence in order to decide whether or not the received pulses are actually reflections of transmitted pulses. However, background light or light from other photodetectors could possibly cause false triggering if the frequency of the external light matches the frequency of the light pulses transmitted by the photodetector” (col. 5, lines 5-10), wherein driving the inhibitor by

determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is

cancelled by a driving signal which changes the intensity of interaction to match the driving signal “[t]he use of eight bits for the coded pattern, as in a preferred embodiment of the present invention, provides a very high probability that a matched pattern truly represents the receipt of a light pattern transmitted by the photodetector. The probability that such an eight bit pattern was caused by background lighting or another photodetector is extremely small. The use of an eight bit pattern provides 255 combinations of high and low pulses if at least one high pulse is required in the coded pattern 60. The number and positions of the eight pulses in the coded pattern 60 can be selected to distinguish each photodetector from other photodectors. In effect, it can serve as an individual identifying marker that distinguishes the photodetector from other photodetectors. As a result, the receipt of a matching coded pattern by the light receiver 14 provides a very high likelihood that the received light signal is a reflected version of the transmitted light signal” col. 4, lines 34-67). ; and

determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal (col. 4-5, lines 60-32).

It would have been obvious to one of ordinary skill in the art to implement the detection means of Alderman in Bilotti in order to improve accuracy, reliability and decrease the chance of interference from background sources as stated in col. 2, lines 40-67.

5. In regards to claim 8, Bilotti discloses apparatus comprising:

a portable computer system body (col. 3, lines 18-30);

a portable computer system (col. 3, lines 18-30) lid (fig. 1 (14)) ;

a coupling joining (fig. 1 (16)) said body and said lid together for movement thereof one relative to an other between open and closed positions (col. 3, lines 18-67); and

a proximity detection subsystem which determines whether said body and said lid are in the closed position (fig. 1 (18, 20 and 22)), said subsystem comprising:

an element mounted (fig. 1 (20)) in one of said body and said lid which initiates an action in the apparatus (col. 4, lines 1-37);

a detector mounted in the other of said body and said lid (fig. 1 (18)) which responds to the proximity of and detects the intensity of interaction with said element (col. 4, lines 1-37, "Hall effect device");

determine a detection state of the detector <u>as true or false </u>(col. 2, lines 16-67).

Bilotti differs from the claimed invention in that Bilotti does not disclose a system and method for an inhibitor (fig. 4 (9)) mounted in said one of said body and said lid and which selectively inhibits the intensity of interaction between said element and to prevent said detector from responding to the proximity of the elements.

a processor configured to detemline a detection state of the detector and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on an output of the detector and the determined detection state of the detector.

However, Cawthorne teaches an inhibitor (fig. 30a, 30b, and 30c) mounted in said one of said body and said lid which selectively inhibits the intensity of interaction between said element and said detector in response to the element being moved into the proximity of the detector (col. 5, lines 50-64);

a processor (col. 1, lines 40 and col. 2, lines 1-6 centrally located control system) configured to determine a detection state of the detector and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on an output of the detector and the determined detection state of the detector (col. 5, lines 60-67)

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the apparatus of Bilotti to include the use of an inhibitor mounted in said one of said body and said lid which selectively inhibits the intensity of interaction between said element and said detector in response to the element being moved into the proximity of the detector as taught by Cawthorne in order to improve a testing and evaluation circuit which allows a test of a proximity switch and to monitor moveable members (col.2, lines 20-65).

Bilotti and Cawthorne fail to teach <u>turns on a noise flag if the intensity equals or exceeds a predetermined intensity value, and turns off the noise flag if the intensity is below the predetermined intensity value</u>

<u>determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is</u>

<u>cancelled by a driving signal which changes the intensity of interaction to match the driving signal; and</u>

<u>determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal.</u>

However, Alderman teaches

a processor configured to (fig. 3 (30) microprocessor):

determine a detection state of the detector as true or false (col. 5, lines1-4 “[e]ach individual pulse is either received or not received and, based on that result, the presence or absence of an object is determined”) and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on the output of the detector and the determined detection state of the detector “In a typical application of a photodetector, a preselected number of light pulses must be properly received in sequence in order to decide whether or not the received pulses are actually reflections of transmitted pulses. However, background light or light from other photodetectors could possibly cause false triggering if the frequency of the external light matches the frequency of the light pulses transmitted by the photodetector” (col. 5, lines 5-10), wherein driving the inhibitor by

determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is cancelled by a driving signal which changes the intensity of interaction to match the driving signal “[t]he use of eight bits for the coded pattern, as in a preferred embodiment

of the present invention, provides a very high probability that a matched pattern truly represents the receipt of a light pattern transmitted by the photodetector. The probability that such an eight bit pattern was caused by background lighting or another photodetector is extremely small. The use of an eight bit pattern provides 255 combinations of high and low pulses if at least one high pulse is required in the coded pattern 60. The number and positions of the eight pulses in the coded pattern 60 can be selected to distinguish each photodetector from other photodectors. In effect, it can serve as an individual identifying marker that distinguishes the photodetector from other photodetectors. As a result, the receipt of a matching coded pattern by the light receiver 14 provides a very high likelihood that the received light signal is a reflected version of the transmitted light signal" col. 4, lines 34-67). ; and

determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal (col. 4-5, lines 60-32).

It would have been obvious to one of ordinary skill in the art to implement the detection means of Alderman in Bilotti in order to improve accuracy, reliability and decrease the chance of interference from background sources as stated in col. 2, lines 40-67.

6. In regards to claims 10 and 14, Bilotti discloses the limitations of a method comprising:

detecting reception of a signal interaction of two members coupled for movement one relative to the (fig. 1 (12 , 14, and 16)) other normally indicative of initiation of a system operation (col. 3, lines 18-30 and abstract);

detecting a detection state of at least one of the two members (col. 3, lines 32-64);

detecting a physical proximity of the two members and determining the appropriateness of initiating the system operation from close proximity of the members (col. 3, lines 18-67)

determine a detection state of the detector <u>as true or false </u>(col. 2, lines 16-67).

Bilotti differs from the claimed invention in that Bilotti does not disclose selectively inhibiting reception of the signal interaction and prevent a response to the detected reception as a function of the determining the detection state;

detecting a physical proximity of the two members and determining the appropriateness of initiating the system operation from close proximity of the members *as a function of the selectively inhibiting the reception of the signal interaction and the determining the detection state*

However, Cawthorne teaches a system and method for selectively inhibiting reception (fig. 30a, 30b, and 30c) of the signal interaction in response to the detected reception (col. 5, lines 50-64).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the apparatus of Bilotti to include the use of selectively inhibiting reception of the signal interaction in response to the detected reception as taught by

Cawthorne in order to improve a testing and evaluation circuit which allows a test of a proximity switch and to monitor moveable members (col.2, lines 20-65).

Therefore, Bilotti as modified by Cawthorne teaches detecting a physical proximity of the two members and determining the appropriateness of initiating the system operation from close proximity of the members (col. 3, lines 18-67 Bilotti) as a function of the selectively inhibiting the reception of the signal interaction and the determining the detection state (col. 5, lines 50-64 Cawthorne).

Bilotti and Cawthorne fail to teach <u>turns on a noise flag if the intensity equals or exceeds a predetermined intensity value, and turns off the noise flag if the intensity is below the predetermined intensity value</u>

<u>determining that the detection state is true and inhibiting the initiation of system operation if the noise flag is on and the signal value is cancelled by a driving signal which changes the signal value to match the driving signal; and</u>

<u>determining that the detection state is false and not inhibiting the initiation of system operation if the noise flag is on and the signal value is unaffected by the driving signal.</u>

However, Alderman teaches

a processor configured to (fig. 3 (30) microprocessor):

determine a detection state of the detector as true or false (col. 5, lines1-4 “[e]ach individual pulse is either received or not received and, based on that result, the presence or absence of an object is determined”) and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on the output of

the detector and the determined detection state of the detector “In a typical application of a photodetector, a preselected number of light pulses must be properly received in sequence in order to decide whether or not the received pulses are actually reflections of transmitted pulses. However, background light or light from other photodetectors could possibly cause false triggering if the frequency of the external light matches the frequency of the light pulses transmitted by the photodetector” (col. 5, lines 5-10), wherein driving the inhibitor by

determining that the detection state is true and inhibiting the initiation of system operation if the noise flag is on and the signal value is cancelled by a driving signal which changes the signal value to match the driving signal “[t]he use of eight bits for the coded pattern, as in a preferred embodiment of the present invention, provides a very high probability that a matched pattern truly represents the receipt of a light pattern transmitted by the photodetector. The probability that such an eight bit pattern was caused by background lighting or another photodetector is extremely small. The use of an eight bit pattern provides 255 combinations of high and low pulses if at least one high pulse is required in the coded pattern 60. The number and positions of the eight pulses in the coded pattern 60 can be selected to distinguish each photodetector from other photodectors. In effect, it can serve as an individual identifying marker that distinguishes the photodetector from other photodetectors. As a result, the receipt of a matching coded pattern by the light receiver 14 provides a very high likelihood that the received light signal is a reflected version of the transmitted light signal” col. 4, lines 34-67). ; and

determining that the detection state is false and not inhibiting the initiation of system operation if the noise flag is on and the signal value is unaffected by the driving signal (col. 4-5, lines 60-32).

It would have been obvious to one of ordinary skill in the art to implement the detection means of Alderman in Bilotti in order to improve accuracy, reliability and decrease the chance of interference from background sources as stated in col. 2, lines 40-67.

7. In regards to claim 11 and 15, Bilotti discloses the limitations of a method comprising:

monitoring an output of a detector mounted in one of two members (fig. 1 (12 , 14, and 16)) coupled for movement one relative to the other based on signal interaction of an element (col. 3, lines 18-30 and abstract) in the other member with the detector ((fig. 1 18, and 20));

detecting an output normally indicative of initiation of a system operation (fig. 1 (22) and col. 3, lines 18-67);

determining a detection state of the detector (col. 3, lines 32-64);

detecting a physical proximity of the members and determining the appropriateness of initiating the system operation from close proximity of the members (col. 3, lines 18-67)

determine a detection state of the detector <u>as true or false</u> (col. 2, lines 16-67).

Bilotti differs from the claimed invention in that Bilotti does not disclose selectively inhibiting the signal interaction of the element with the detector and preventing a response by the detector to the detecting the signal interaction.

However, Cawthorne teaches a system and method selectively inhibiting (fig. 30a, 30b, and 30c) the signal interaction of the element with the detector and preventing a response by the detector to the detecting the signal interaction. (col. 5, lines 50-64).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the apparatus of Bilotti to include the use of selectively inhibiting reception of the signal interaction in response to the detected reception as taught by Cawthorne in order to improve a testing and evaluation circuit which allows a test of a proximity switch and to monitor moveable members (col.2, lines 20-65).

Therefore, Bilotti as modified by Cawthorne teaches detecting a physical proximity of the members and determining an appropriateness of initiating the system operation from close proximity of the members (col. 3, lines 18-67 Bilotti) as a function of the selectively inhibiting the reception of the signal interaction and the determining the detection state (col. 5, lines 50-64 Cawthorne).

Bilotti and Cawthorne fail to teach <u>turns on a noise flag if the intensity equals or exceeds a predetermined intensity value, and turns off the noise flag if the intensity is below the predetermined intensity value</u>

<u>determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is</u>

<u>cancelled by a driving signal which changes the intensity of interaction to match the driving signal; and</u>

<u>determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal.</u>

However, Alderman teaches

a processor configured to (fig. 3 (30) microprocessor):

determine a detection state of the detector as true or false (col. 5, lines1-4 "[e]ach individual pulse is either received or not received and, based on that result, the presence or absence of an object is determined") and drive the inhibitor to selectively inhibit the intensity of interaction of the detector and the element based on the output of the detector and the determined detection state of the detector "In a typical application of a photodetector, a preselected number of light pulses must be properly received in sequence in order to decide whether or not the received pulses are actually reflections of transmitted pulses. However, background light or light from other photodetectors could possibly cause false triggering if the frequency of the external light matches the frequency of the light pulses transmitted by the photodetector" (col. 5, lines 5-10), wherein driving the inhibitor by

determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is cancelled by a driving signal which changes the intensity of interaction to match the driving signal "[t]he use of eight bits for the coded pattern, as in a preferred embodiment

of the present invention, provides a very high probability that a matched pattern truly represents the receipt of a light pattern transmitted by the photodetector. The probability that such an eight bit pattern was caused by background lighting or another photodetector is extremely small. The use of an eight bit pattern provides 255 combinations of high and low pulses if at least one high pulse is required in the coded pattern 60. The number and positions of the eight pulses in the coded pattern 60 can be selected to distinguish each photodetector from other photodectors. In effect, it can serve as an individual identifying marker that distinguishes the photodetector from other photodetectors. As a result, the receipt of a matching coded pattern by the light receiver 14 provides a very high likelihood that the received light signal is a reflected version of the transmitted light signal" col. 4, lines 34-67). ; and

determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal (col. 4-5, lines 60-32).

It would have been obvious to one of ordinary skill in the art to implement the detection means of Alderman in Bilotti in order to improve accuracy, reliability and decrease the chance of interference from background sources as stated in col. 2, lines 40-67.

8. In regards to claim 2, Billotti and Cawthorne modified by Alderman teaches wherein said element is free of any necessity of application of an external source of power (fig. 1 (18)) col. 3, lines 40 "magnet" Billotti).

9. In regards to claim 3, Billotti and Cawthorne as modified by Alderman teaches wherein said detector responds to one of an electromagnetic wave, an electric field, *a magnetic field*, corpuscular radiation, and an acoustic wave (fig. 1 (20) col. 3-4, lines 63-9 Billotti).

10. In regards to claim 4, Billotti and Cawthorne as modified by Alderman teaches wherein said element is a magnet (fig. 1 (18) and col. 3, line 40 Billotti), said detector is a Hall effect switch (col. 4, lines 23-37 Billotti) responsive to imposition of a magnetic field (col. 4, lines 23-37 Billotti), and said inhibitor ((fig. 30a, 30b, and 30c) Cawthorne) is a coil generating a magnetic field opposing the field of said magnet (((fig. 30a, 30b, and 30c) Cawthorne) coils).

11. In regards to claim 5, Billotti as modified by Cawthorne does not disclose wherein said element is a light source, said detector is a photoelectric device, and said inhibitor is a light shield.

However, Alderman teaches wherein said element is a light source (fig. 3 (12 light transmitter), said detector is a photoelectric device (fig. 3 (14)), and said inhibitor is a light shield (fig. 8a Q1) the microprocessor is pulsing the transistor which inhibits the emitter from transmitting light)

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify said element of Billotti and Cawthorne to include the use of wherein said element is a light source, said detector is a photoelectric device, and said inhibitor is a light shield as taught by Alderman in order to provide use of preferred materials since optical material are not susceptible to malfunction magnetic clips and other problems as stated in Applicant's disclosure.

12. In regards to claim 6 Billotti and Cawthorne as modified by Alderman teaches wherein one of said members is the lid of a portable computer system having a display therein and the other of said members is the body of a portable computer system having a keyboard therein (col. 3, lines 29-30 Billotti).

13. In regards to claim 7, Billotto as modified by Cawthorne fails to expressly teaches wherein said inhibitor is responsive to a coded driving signal.

However, Alderman teaches a coded driving signal (col. 2-3, lines 55-30 Alderman).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Bilotti and Cawthorne to include the use a coded driving signal in order to protect against ambient signals being interpreted incorrectly. (col. 2-3, lines 55-30 Alderman)

Therefore, Bilotti and Cawthorne as modified by Alderman teaches wherein said inhibitor (fig. 3 (30a, 30b, and 30c Cawthorne)) is responsive to a coded driving signal and further wherein said inhibitor (fig. 3 (30a, 30b, and 30c Cawthorne)), said element and said detector cooperate in determining the physical proximity of said members one relative to the other by detection of the coded driving signal (col. 3-4, lines 32-52 Bilotti).

14. In regards to claim 9, Billotti and Cawthorne as modified by Alderman teaches wherein said element is a magnet (fig. 1 (18) and col. 3, line 40 Billotti), said detector is a Hall effect switch (col. 4, lines 23-37 Billotto) responsive to imposition of a magnetic field (col. 4, lines 23-37 (Billotto), and said inhibitor (((fig. 30a, 30b, and 30c) Cawthorne)) is a coil generating a magnetic field opposing the field of said magnet further comprising a microprocessor (fig. 1 (22) of Billotti) operatively connected to control excitation of said coil (((fig. 30a, 30b, and 30c) Cawthorne) coils).

15. In regards to claim 12 Billotti and Cawthorne as modified by Alderman teaches wherein the selective inhibition (((fig. 30a, 30b, and 30c) Cawthorne)) of response occurs in response to detection that the members are withdrawn one from the other (col. 4, lines 10-37 of Billotti).

16. In regards to claim 13, Billotti and Cawthorne as modified by Alderman teaches wherein selective inhibition (col. 2, lines 48-65 Cawthorne) of response is discontinued

in response to detection that the members are in close proximity one to the other (col. 4, lines 10-37 (Billotti)).

17. In regards to claim 19, Billotti and Cawthorne as modified by Alderman further including preventing detection of the output (col. 2, lines 48-65 Cawthorne).

18. In regards to claim 20, Billotti and Cawthorne as modified by Alderman teaches wherein the inhibitor is activated by a power supply external to the inhibitor (fig. 3 (24) Cawthorne).

19. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billotti and Cawthorne as modified by Alderman in view of Bartingale et. al (US 2003/0048102) hereinafter, Bartingale.

20. In regards to claim 16, Billotti and Cawthorne as modified by Alderman disclose the limitations of claim 1 wherein the element is a magnet (fig. 1 (18) of Bilotti).

Billotti and Cawthorne as modified by Alderman differ from the claimed invention in that Bilotti and Cawthorne do not disclose further including a noise magnetic field filter that filters external magnetic noise, thereby mitigating interaction between the external

magnetic noise and the detector when the first and second members are in close proximity to each other.

However, Bartingale teaches including a noise magnetic field filter that filters external magnetic noise, thereby mitigating interaction between the external magnetic noise and the detector when the first and second members are in close proximity to each other ([0040 and 0043] of Bartingale).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Billotti and Cawthorne as modified by Alderman to include the use of a noise magnetic field filter that filters external magnetic noise, thereby mitigating interaction between the external magnetic noise and the detector when the first and second members are in close proximity to each other as taught by Bartingale in order to remove an noise that may cause interference as stated in ([0400] of Bartingale).

21. In regards to claim 18, Billotti and Cawthorne as modified by Alderman differ from the claimed invention in that Bilotti and Cawthorne do not disclose further including filtering noise that mimics the signal when the members are in a first position, with respect to each other, where the signal is not detected.

However, Bartingale teaches further including filtering noise that mimics the signal when the members are in a first position, with respect to each other, where the signal is not detected ([0040 and 0043] of Bartingale).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Billotti and Cawthorne as modified by Alderman to include the use

of filtering noise that mimics the signal when the members are in a first position, with respect to each other, where the signal is not detected as taught by Bartingale in order to remove a noise that may cause interference as stated in ([0400] of Bartingale).

22. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bilotti Billotti and Cawthorne as modified by Alderman in view of Sunter et. al (US 5,323,011) hereinafter, Sunter.

23. In regards to claim 17, Billotti and Cawthorne as modified by Alderman do not disclose wherein the detector responds to corpuscular radiation.

However, Suntar teaches a system and method for wherein the detector responds to corpuscular radiation (col. 1, lines 35-46 of Suntar).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Bilotti and Cawthorne as modified by Alderman to include the use of wherein the detector responds to corpuscular radiation as taught by Suntar in order to provide another detection means as stated in (col. 1, lines 35-46 of Suntar).

Response to Arguments

24. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Examiner notes Bilotti teaches a magnetic pole insensitive switch circuit used in any device or apparatus which uses a magnetic device in conjunction with a movable

portion such as a movable cover or door including cellular and non-cellular telephones, notebook or laptop computers and refrigerators (col. 3, lines 33-45). Bilotti fails to teach a means to test a sensor using an inhibitor. However, with respect to proximity switches it is well known to provide a self-testing device which is electrically controllable from a remote location and produces a canceling or diverting magnetic field which simulates the effect of movement of the closure member from the closed position thereof without any actual movement of the member (Cawthorne). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the apparatus of Bilotti to include the use of selectively inhibiting reception of the signal interaction in response to the detected reception as taught by Cawthorne in order to improve a testing and evaluation circuit which allows a test of a proximity switch and to monitor moveable members (col.2, lines 20-65).

Bilotti as modified by Cawthorne fails to teach determining that the detection state is true and inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is cancelled by a driving signal which changes the intensity of interaction to match the driving signal; and determining that the detection state is false and not inhibiting the intensity of the interaction with the element if the noise flag is on and the intensity of interaction is unaffected by the driving signal.

However, Alderman teaches a detector of the present invention also comprises a receiver for receiving a second plurality of pulses from a second preselected direction. A comparator is provided for comparing the first plurality of pulses to the second plurality of pulses. The detector also has an output signal transmitter for providing an output

signal to acknowledge when the first and second plurality of pulses are equal and the when second plurality of pulses comprises the coded pattern of the first plurality of pulses For example in a diffuse application, a perfect match of coded patterns in the first and second pluralities of pulses would indicate the presence of an object in the detection zone. Therefore, it should be clearly understood that the output signal from the present invention can be either logically high or logically low when indicating a match of the two coded patterns of the first and second pluralities of pulses.

It would have been obvious to one of ordinary skill in the art to incorporate the testing means of Alderman with the inhibitor associated with Bilotti and Cawthorne since it would provide a means to implement a sensor that is “virtually immune to the interference” from such things as background light (col. 2, lines 40-50 Alderman), or stray magnetic fields (col. 2, lines 65-67 Alderman).

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/Grant D Sitta/
Examiner, Art Unit 2629